# UNITED STATES PATENT AND TRADEMARK OFFICE

| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|---|---|---|---|---|
| 10/726,247 | 12/02/2003 | John B. Amundson | H0005441-9950 (1161.11371 | 3535 |

| | | | |
|---|---|---|---|
| 128 7590 02/27/2007 | | EXAMINER | |
| HONEYWELL INTERNATIONAL INC. | | NGUYEN, LE V | |
| 101 COLUMBIA ROAD | | | |
| P O BOX 2245 | | ART UNIT | PAPER NUMBER |
| MORRISTOWN, NJ 07962-2245 | | 2174 | |

| SHORTENED STATUTORY PERIOD OF RESPONSE | MAIL DATE | DELIVERY MODE |
|---|---|---|
| 3 MONTHS | 02/27/2007 | PAPER |

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

| | Application No. | Applicant(s) |
|---|---|---|
| **Office Action Summary** | 10/726,247 | AMUNDSON ET AL. |
| | Examiner | Art Unit | |
| | Le Nguyen | 2174 | |

*-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --*

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

1)☐ Responsive to communication(s) filed on _____.
2a)☐ This action is **FINAL**.    2b)☒ This action is non-final.
3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

4)☒ Claim(s) *1-71* is/are pending in the application.
     4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5)☐ Claim(s) _____ is/are allowed.
6)☒ Claim(s) *1-71* is/are rejected.
7)☐ Claim(s) _____ is/are objected to.
8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

## Application Papers

9)☒ The specification is objected to by the Examiner.
10)☒ The drawing(s) filed on <u>02 December 2003</u> is/are: a)☐ accepted or b)☒ objected to by the Examiner.
     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
     a)☐ All   b)☐ Some * c)☐ None of:
       1.☐ Certified copies of the priority documents have been received.
       2.☐ Certified copies of the priority documents have been received in Application No. _____.
       3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
     * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)
1)☒ Notice of References Cited (PTO-892)
2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3)☒ Information Disclosure Statement(s) (PTO/SB/08)
     Paper No(s)/Mail Date <u>See Continuation Sheet</u>.
4)☐ Interview Summary (PTO-413)
     Paper No(s)/Mail Date. _____.
5)☐ Notice of Informal Patent Application
6)☐ Other: _____.

Continuation of Attachment(s) 3). Information Disclosure Statement(s) (PTO/SB/08), Paper No(s)/Mail Date : 7/12/04, 4/25/05, 4/27/05, 9/28/05, 10/5/05, 4/25/06, 1/23/07 and 1/17/07.

## DETAILED ACTION

### *Drawings*

1.      The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5)

because they include the following reference character(s) not mentioned in the

description: reference character 850 of fig. 8C.  Corrected drawing sheets in compliance

with 37 CFR 1.121(d), or amendment to the specification to add the reference

character(s) in the description in compliance with 37 CFR 1.121(b) are required in reply

to the Office action to avoid abandonment of the application. Any amended replacement

drawing sheet should include all of the figures appearing on the immediate prior version

of the sheet, even if only one figure is being amended. Each drawing sheet submitted

after the filing date of an application must be labeled in the top margin as either

"Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are

not accepted by the examiner, the applicant will be notified and informed of any required

corrective action in the next Office action. The objection to the drawings will not be held

in abeyance.

### *Specification*

2.      The disclosure is objected to because of the following informalities:

        a) "although this not required" (lines 5-6, page 7) appears to contain a

grammatical error; and

b) "control module 210, that in some embodiments, that can be a microprocessor

or the like" (line 9, page 9) should be changed to: control module 210 that, in some

embodiments, can be a microprocessor or the like.

Appropriate correction is required.


## Claim Rejections - 35 USC § 112

3.      The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly
claiming the subject matter which the applicant regards as his invention.

4.      Claims 21, 55 and 57 are rejected under 35 U.S.C. 112, second paragraph, as

being indefinite for failing to particularly point out and distinctly claim the subject matter

which applicant regards as the invention.

Claim 21 recites the limitation "the two or more" in line 4 of the claim. Although

an antecedent base is established for "one or more" in line 3, there is insufficient

antecedent basis for "the two or more" limitation in the claim.

The limitation "*one or more* of temperature and humidity" (claim 55) should be

one or more of temperature or humidity to clearly set them as alternatives. The limitation

"heating and/or cooling" (claim 57) should be heating or cooling to clearly set them as

alternatives.


## Claim Rejections - 35 USC § 102

5.      The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that

form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

6.      Claims 54-57 are rejected under 35 U.S.C. 102(e) as being anticipated by Alles.

As per claim 54, Alles teaches a method for controlling an HVAC system that is adapted to modify and control at least one environmental condition of an inside space against a first set point (fig. 21; col. 31, line 40 through col. 32, line 5; *a first set point 2113*), the method comprising: deactivating at least part of the HVAC system to not modify and control at least one environmental condition of the inside space (figs. 20-22; col. 31, lines 13-17; col. 31, line 40 through col. 32, line 5; *when the temperature reaches a certain threshold level 2113 and 2116, a signal is sent to deactivate one or more component in the system such as heating or AC*); monitoring the environmental condition in the inside space that the HVAC system is no longer modifying and controlling and automatically activating the at least one part of the HVAC system to again modify the environmental condition in the inside space if the environmental condition in the inside space passes a second set point wherein the second set point is different than the first set point (fig. 21; col. 31, line 40 through col. 32, line 5; *a second set point 2116*).

As per claim 55, Alles teaches a method for controlling an HVAC system that is adapted to modify and control at least one environmental condition of an inside space against a first set point wherein the at least one environmental condition is one or more

of temperature or humidity (fig. 21; col. 31, line 40 through col. 32, line 5; *an environmental condition such as a temperature of an inside space is modified and controlled against a first set point such as 2113*).

As per claim 56, Alles teaches a method for controlling an HVAC system that is adapted to modify and control at least one environmental condition of an inside space against a first set point wherein the second set point is user selectable (fig. 21; col. 31, line 40 through col. 32, line 5).

As per claim 57, Alles teaches a method for controlling an HVAC system that has a fan that normally operates during heating and/or cooling operations (col. 9, lines 2-7) and comprises requesting a time indicator from a user (figs. 20-21; col. 27, line 50 through col. 28, line 8; col. 27, lines 25-27; col. 31, lines 46-64; col. 32, lines 58-67; *start time and end time are accepted via 2010 of PDA interface upon selection of any of the times such as 2004 of "Sleeping"*), over-riding the fan for a time corresponding to the time indicator provided by the user (fig. 21; col. 32, lines 11-12) and returning to normal fan operation after the time expires (fig. 20; *after the time for "Sleeping" expires, fan operation returns to normally scheduled "Active" mode*).

7.      Claims 66-71 are rejected under 35 U.S.C. 102(e) as being anticipated by Ehlers et al. ("Ehlers").

As per claim 66, Ehlers teaches a method for controlling an HVAC system that is adapted to modify and control an environmental condition of an inside space of a structure, the method comprising: controlling the environmental condition using a first control set point (col. 31, lines 8-9; *e.g. customer established first set point such as a*

*set point for "holiday"*); sensing the environmental condition outside of the structure and adjusting the first control set point if the environmental condition outside of the structure passes a predetermined value (col. 30, line 65 through col. 31, line 23).

As per claim 67, the modified Ehlers teaches a method for controlling an HVAC system that is adapted to modify and control an environmental condition of an inside space of a structure wherein the environmental condition is temperature (col. 30, line 65 through col. 31, line 23).

As per claim 68, the modified Ehlers teaches a method for controlling an HVAC system that is adapted to modify and control an environmental condition of an inside space of a structure wherein the environmental condition is humidity (col. 30, line 65 through col. 31, line 23; col. 29, lines 4-13; col. 8, lines 26-35).

As per claim 69, the modified Ehlers teaches a method for controlling an HVAC system that is adapted to modify and control an environmental condition of an inside space of a structure wherein the first control set point is adjusted in a manner that reduces the load on the HVAC system (col. 31, lines 24-35).

As per claim 70, the modified Ehlers teaches a method for controlling an HVAC system that is adapted to modify and control an environmental condition of an inside space of a structure wherein the first control set point is only allowed to be adjusted by a predetermined amount (col. 33, line 47 through col. 34, line 38; *user established first control set point is only allowed to be adjusted by a predetermined amount, i.e. having a set point offset of 4 degrees F in a maximum savings setting*).

As per claim 71, Ehlers teaches a method for controlling an HVAC system that is adapted to modify and control an environmental condition of an inside space of a structure, the HVAC system having a duty cycle that varies with the environmental condition outside of the structure, the method comprising: controlling the environmental condition in the inside space using a first control set point; sensing the duty cycle of the HVAC system and adjusting the first control set point if the duty cycle of the HVAC system exceeds a predetermined value (col. 30, line 65 through col. 31, line 23).

8.    The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

9.    Claim 58 is rejected under 35 U.S.C. 102(e) as being anticipated by Riley.

As per claim 58, Riley teaches a method for controlling an HVAC system that is adapted to modify and control at least one environmental condition of an inside space of a structure, the structure having at least one window that opens and closes, the method comprising detecting an indication that a window is or has been opened, deactivating at least part of the HVAC system to not modify and control at least one environmental condition of the inside space, detecting an indication that the window is or has been closed, activating the at least part of the HVAC system that was deactivated to again modify and control the at least one environmental condition of the inside space (col. 18, lines 3-25).

### Claim Rejections - 35 USC § 103

10.     The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

11.     Claims 1-49 are rejected under 35 U.S.C. 103(a) as being unpatentable over

Alles in view of Liebl et al. ("Liebl").

        As per claim 1, although Alles teaches a method of modifying a programmable

schedule for a controller having a user interface and comprising the steps of providing,

simultaneously or sequentially, two or more schedule override choices to a user via the

user interface, accepting a selection of one of the two or more schedule override

choices from the user via the user interface and modifying the schedule based on the

user responses provided by the user interface (figs. 20-21; col. 27, lines 17-27; col. 31,

lines 40-45; *selecting any comfort-climate 2005 causes "Comfort-Climate" popup menu*

*2100 of the PDA interface to appear wherein popup menu 2100 displays schedule*

*choices to a user wherein users may override a schedule choice by selecting one of the*

*schedule choices 2101 to appear in the temperature schedule display 2001*), Alles does

not explicitly disclose that the schedule is modified temporarily. Liebl teaches a

schedule override that is modified temporarily (figs. 2 and 9(A-C); col. 14, lines 33-67). It

would have been obvious to an artisan at the time of the invention to incorporate the

method of Liebl with the method of Alles given that, by automatically returning to a

regular schedule after selection of a bookmarked custom mode, users are provided a

time-saving benefit of not having to remember to make an additional selection to return to the regular schedule.

As per claim 2, the modified Alles teaches a method of modifying a programmable schedule for a controller having a user interface and comprising returning to a normal program schedule after the temporary modification expires (Liebl: figs. 2 and 9(A-B); col. 14, lines 33-49).

As per claim 3, the modified Alles teaches a method of modifying a programmable schedule for a controller having a user interface wherein the providing step comprises providing one or more natural language schedule override choices (Alles: fig. 21;col. 27, lines 17-27; col. 31, lines 40-45; *natural language schedule override choices such as choices that include phrases with one or more provided words "Sleeping", "Active", "Empty", "Relaxing" or words entered by the user*).

As per claim 4, the modified Alles teaches a method of modifying a programmable schedule for a controller having a user interface wherein the accepting step further comprises accepting a schedule override start time, end time or duration, and temperature (Alles: figs. 20-21; col. 27, line 50 through col. 28, line 8; col. 27, lines 25-27; col. 31, lines 46-64; col. 32, lines 58-67; *start time and end time are accepted via 2010 of PDA interface upon selection of any of the times 2004, and temperature is accepted via 2110 or 2160 upon selection of 2102, 2122 or any of the temperature ranges 2008*).

As per claim 5, although the modified Alles teaches a method of modifying a programmable schedule for a controller having a user interface wherein the providing

step comprises displaying a natural language schedule override choice that users input (Alles: figs. 21-23; col. 32, lines 28-47), the modified Alles does not explicitly disclose a "Come Home Early" user input. Official Notice is taken that users inputs such as "Come Home Early" are well known in the art. It would have been obvious to an artisan at the time of the invention to incorporate users inputs such as "Come Home Early" with the method of the modified Alles in order to provide users full editing capabilities without any word/phrase restrictions.

As per claim 6, although the modified Alles teaches a method of modifying a programmable schedule for a controller having a user interface wherein the providing step comprises displaying a natural language schedule override choice that users input (Alles: figs. 21-23; col. 32, lines 28-47), the modified Alles does not explicitly disclose a "Come Home Late" user input. Official Notice is taken that users inputs such as "Come Home Late" are well known in the art. It would have been obvious to an artisan at the time of the invention to incorporate users inputs such as "Come Home Late" with the method of the modified Alles in order to provide users full editing capabilities without any word/phrase restrictions.

As per claim 7, although the modified Alles teaches a method of modifying a programmable schedule for a controller having a user interface wherein the providing step comprises displaying a natural language schedule override choice that users input (Alles: figs. 21-23; col. 32, lines 28-47), the modified Alles does not explicitly disclose a "Get Up Early" user input. Official Notice is taken that users inputs such as "Get Up Early" are well known in the art. It would have been obvious to an artisan at the time of

the invention to incorporate users inputs such as "Get Up Early" with the method of the modified Alles in order to provide users full editing capabilities without any word/phrase restrictions.

As per claim 8, although the modified Alles teaches a method of modifying a programmable schedule for a controller having a user interface wherein the providing step comprises displaying a natural language schedule override choice that users input (Alles: figs. 21-23; col. 32, lines 28-47), the modified Alles does not explicitly disclose a "Stay Up Late" user input. Official Notice is taken that users inputs such as "Stay Up Late" are well known in the art. It would have been obvious to an artisan at the time of the invention to incorporate users inputs such as "Stay Up Late" with the method of the modified Alles in order to provide users full editing capabilities without any word/phrase restrictions.

As per claim 9, although the modified Alles teaches a method of modifying a programmable schedule for a controller having a user interface wherein the providing step comprises displaying a natural language schedule override choice that users input (Alles: figs. 21-23; col. 32, lines 28-47), the modified Alles does not explicitly disclose a "Stay Home" user input. Official Notice is taken that users inputs such as "Stay Home" are well known in the art. It would have been obvious to an artisan at the time of the invention to incorporate users inputs such as "Stay Home" with the method of the modified Alles in order to provide users full editing capabilities without any word/phrase restrictions.

As per claim 10, although the modified Alles teaches a method of modifying a programmable schedule for a controller having a user interface wherein the providing step comprises displaying a natural language schedule override choice that users input (Alles: figs. 21-23; col. 32, lines 28-47), the modified Alles does not explicitly disclose an "*On* Vacation" user input. Official Notice is taken that users inputs such as "On Vacation" are well known in the art. It would have been obvious to an artisan at the time of the invention to incorporate users inputs such as "On Vacation" with the method of the modified Alles in order to provide users full editing capabilities without any word/phrase restrictions.

Claim 11 is similar in scope to claim 1 and is therefore rejected under similar rationale.

Claim 12 is similar in scope to claim 2 and is therefore rejected under similar rationale.

Claim 13 is similar in scope to claim 3 and is therefore rejected under similar rationale.

Claim 14 is similar in scope to claim 4 and is therefore rejected under similar rationale.

Claims 15 and 21 are individually similar in scope to claim 5 and are therefore rejected under similar rationale.

Claims 16 and 22 are individually similar in scope to claim 6 and are therefore rejected under similar rationale.

Claims 17 and 23 are individually similar in scope to claim 5 and are therefore rejected under similar rationale.

Claim 18 is similar in scope to claim 8 and is therefore rejected under similar rationale.

Claim 19 is similar in scope to claim 9 and is therefore rejected under similar rationale.

Claim 20 is similar in scope to claim 10 and is therefore rejected under similar rationale.

As per claim 24, although Alles teaches a method of modifying a programmable HVAC schedule for a controller having a user interface and comprising the steps of providing one or more schedule override choices to a user via the user interface (figs. 20-21; col. 27, lines 17-27; col. 31, lines 40-45; *selecting any comfort-climate 2005 causes "Comfort-Climate" popup menu 2100 to appear wherein popup menu 2100 of the PDA interface displays schedule choices to a user wherein users may override a schedule choice by selecting one of the schedule choices 2101 to appear in the temperature schedule display 2001*), accepting one or more user responses to the one or more schedule override choices from the user via the user interface at a first time (fig. 21; *upon selection of 2121 to the one or more schedule override choices, a first time is accepted*) and modifying the schedule based on the user responses provided by the user interface at a second time wherein the second time is later than the first time (fig. 21; *modifying the schedule based on selection of 2005 such as "Active" at a second time wherein the second time is later than the first time "Sleeping"*), Alles does not

explicitly disclose that the schedule is modified temporarily. Liebl teaches a schedule

override that is modified temporarily (figs. 2 and 9(A-C); col. 14, lines 33-67). It would

have been obvious to an artisan at the time of the invention to incorporate the method of

Liebl with the method of Alles given that, by automatically returning to a regular

schedule after selection of a bookmarked custom mode, users are provided a time-

saving benefit of not having to remember to make an additional selection to return to the

regular schedule.

As per claim 25, the modified Alles teaches a method of modifying a

programmable HVAC schedule for a controller having a user interface wherein the

modifying step comprises the second time being later than the first time by a chosen

time interval (Alles: fig. 20; col. 27, line 50 through col. 28, line 8; *a 2-hour time interval*

*between 6:00 am and 8:00 am was chosen wherein the time may be edited by selecting*

*2004*).

As per claims 26 and 39, the modified Alles teaches a method of modifying a

programmable HVAC schedule for a controller having a user interface wherein the

modifying step comprises a chosen time interval is at least 10 minutes (Alles: fig. 20;

col. 27, line 50 through col. 28, line 8).

As per claims 27 and 40, the modified Alles teaches a method of modifying a

programmable HVAC schedule for a controller having a user interface wherein the

modifying step comprises a chosen time interval is at least 30 minutes (Alles: fig. 20;

col. 27, line 50 through col. 28, line 8).

As per claims 28 and 41, the modified Alles teaches a method of modifying a programmable HVAC schedule for a controller having a user interface wherein the modifying step comprises a chosen time interval is at least 1 hour (Alles: fig. 20; col. 27, line 50 through col. 28, line 8).

As per claims 29 and 42, although the modified Alles teaches a method of modifying a programmable HVAC schedule for a controller having a user interface wherein the modifying step comprises a chosen time interval of increments of 2, 3, 5 and 6 hours wherein the time marking an interval between choices can be edited by the user (Alles: fig. 20; col. 27, line 50 through col. 28, line 8), Alles does not explicitly disclose the chosen time interval to be at least 24 hours. Official notice is taken that a 24-hour chosen time interval is well known in the art. It would have been obvious to an artisan at the time of the invention to incorporate 24-hour chosen time interval with the method of the modified Alles in order to provide users with greater laxity in scheduling by not requiring a time period limitation.

As per claims 30 and 44, the modified Alles teaches a method of modifying a programmable HVAC schedule for a controller having a user interface wherein the accepting step further comprises accepting a schedule override start time, end time or duration, and temperature, wherein the start time is the second time (Alles: figs. 20-21; col. 27, line 50 through col. 28, line 8; col. 27, lines 25-27; col. 31, lines 46-64; col. 32, lines 58-67; *start time and end time are accepted via 2010 of PDA interface following selection of any of the times 2004, and temperature is accepted via 2110 or 2160 upon selection of 2102, 2122 or any of the temperature ranges 2008*).

As per claims 31 and 45, although the modified Alles teaches a method of modifying a programmable HVAC schedule for a controller having a user interface wherein the providing step comprises displaying a natural language schedule override choice that users input (Alles: figs. 21-23; col. 32, lines 28-47), the modified Alles does not explicitly disclose a "Come Home Early" user input. Official Notice is taken that users inputs such as "Come Home Early" are well known in the art. It would have been obvious to an artisan at the time of the invention to incorporate users inputs such as "Come Home Early" with the method of the modified Alles in order to provide users full editing capabilities without any word/phrase restrictions.

As per claim 32, although the modified Alles teaches a method of modifying a programmable HVAC schedule for a controller having a user interface wherein the providing step comprises displaying a natural language schedule override choice that users input (Alles: figs. 21-23; col. 32, lines 28-47), the modified Alles does not explicitly disclose a "Come Home Late" user input. Official Notice is taken that users inputs such as "Come Home Late" are well known in the art. It would have been obvious to an artisan at the time of the invention to incorporate users inputs such as "Come Home Late" with the method of the modified Alles in order to provide users full editing capabilities without any word/phrase restrictions.

As per claim 33, although the modified Alles teaches a method of modifying a programmable HVAC schedule for a controller having a user interface wherein the providing step comprises displaying a natural language schedule override choice that users input (Alles: figs. 21-23; col. 32, lines 28-47), the modified Alles does not explicitly

disclose a "Get Up Early" user input. Official Notice is taken that users inputs such as "Get Up Early" is well known in the art. It would have been obvious to an artisan at the time of the invention to incorporate users inputs such as "Get Up Early" with the method of the modified Alles in order to provide users full editing capabilities without any word/phrase restrictions.

As per claim 34, although the modified Alles teaches a method of modifying a programmable HVAC schedule for a controller having a user interface wherein the providing step comprises displaying a natural language schedule override choice that users input (Alles: figs. 21-23; col. 32, lines 28-47), the modified Alles does not explicitly disclose a "Stay Up Late" user input. Official Notice is taken that users inputs such as "Stay Up Late" user inputs are well known in the art. It would have been obvious to an artisan at the time of the invention to incorporate users inputs such as "Stay Up Late" with the method of the modified Alles in order to provide users full editing capabilities without any word/phrase restrictions.

As per claim 35, although the modified Alles teaches a method of modifying a programmable HVAC schedule for a controller having a user interface wherein the providing step comprises displaying a natural language schedule override choice that users input (Alles: figs. 21-23; col. 32, lines 28-47), the modified Alles does not explicitly disclose a "Stay Home" user input. Official Notice is taken that users inputs such as "Stay Home" are well known in the art. It would have been obvious to an artisan at the time of the invention to incorporate users inputs such as "Stay Home" with the method

of the modified Alles in order to provide users full editing capabilities without any word/phrase restrictions.

As per claim 36, although the modified Alles teaches a method of modifying a programmable HVAC schedule for a controller having a user interface wherein the providing step comprises displaying a natural language schedule override choice that users input (Alles: figs. 21-23; col. 32, lines 28-47), the modified Alles does not explicitly disclose an "*On* Vacation" user input. Official Notice is taken that users inputs such as "On Vacation" are well known in the art. It would have been obvious to an artisan at the time of the invention to incorporate users inputs such as "On Vacation" with the method of the modified Alles in order to provide users full editing capabilities without any word/phrase restrictions.

Claim 37 is similar in scope to claim 24 and is therefore rejected under similar rationale.

Claim 43 is similar in scope to claim 30 and is therefore rejected under similar rationale.

12.    Claims 50-53 are rejected under 35 U.S.C. 103(a) as being unpatentable over Alles in view of Riley et al. ("Riley").

As per claim 50, although Alles teaches a method of modifying a programmable HVAC schedule for a controller having a user interface and comprising the steps of providing one or more schedule override choices to a user via the user interface (figs. 20-21; col. 27, lines 17-27; col. 31, lines 40-45; *selecting any comfort-climate 2005 causes "Comfort-Climate" popup menu 2100 to appear wherein popup menu 2100 of*

*the PDA interface displays schedule choices to a user wherein users may override a*

*schedule choice by selecting one of the schedule choices 2101 to appear in the*

*temperature schedule display 2001)*accepting a start time, end time or duration, and

energy saving temperature response to the one or more schedule comfort override

choices from the user via the user interface at a first time (figs. 20-21; col. 27, line 50

through col. 28, line 8; col. 27, lines 25-27; col. 31, lines 46-64; col. 32, lines 58-67;

*following selection of any of the times 2004, start time and end time for a first time are*

*accepted upon selection of 2121 to the one or more schedule override choices via 2010*

*of the PDA interface; temperature is accepted via 2110 or 2160 upon selection of 2102,*

*2122 or any of the temperature ranges 2008)* and modifying the schedule based on the

user responses provided by the user interface at a second time wherein the second

time is later than the first time (fig. 21; *modifying the schedule based on selection of*

*2005 such as "Active" at a second time wherein the second time is later than the first*

*time "Sleeping")*, Alles does not explicitly disclose that energy saving is included as one

of the one or more schedule override menu choices. Riley provides for energy saving

schedule override menu choices to a user (fig. 1A; col. 15, lines 22-50). It would have

been obvious to an artisan at the time of the invention to incorporate the method of

Riley with the method of Alles in order to utilize energy efficiently in accordance with

users' budget.

As per claim 51, the modified Alles teaches a method of modifying a

programmable HVAC schedule for a controller having a user interface wherein the

modifying step comprises the second time being later than the first time by a chosen

time interval (Alles: fig. 20; col. 27, line 50 through col. 28, line 8; *a 2-hour time interval between 6:00 am and 8:00 am was chosen wherein the time may be edited by selecting 2004*).

As per claim 52, although the modified Alles teaches a method of modifying a programmable HVAC schedule for a controller having a user interface wherein the providing step comprises displaying a schedule energy saving override menu choice that is editable (Alles: figs. 21-23; col. 32, lines 28-47; Riley: fig. 1A; col. 15, lines 22-50), the modified Alles does not explicitly disclose that "Come Home Late" is displayed. Official Notice is taken that displaying words such as "Come Home Late" is well known in the art. It would have been obvious to an artisan at the time of the invention to incorporate displaying words such as "Come Home Late" with the method of the modified Alles in order to provide users full editing capabilities without any word/phrase restrictions.

As per claim 53, although the modified Alles teaches a method of modifying a programmable HVAC schedule for a controller having a user interface wherein the providing step comprises displaying a schedule energy saving override menu choice that is editable (Alles: figs. 21-23; col. 32, lines 28-47; Riley: fig. 1A; col. 15, lines 22-50), the modified Alles does not explicitly disclose that "On Vacation" is displayed. Official Notice is taken that displaying words such as "On Vacation" is well known in the art. It would have been obvious to an artisan at the time of the invention to incorporate displaying words such as "On Vacation" with the method of the modified Alles in order to provide users full editing capabilities without any word/phrase restrictions.

13.    Claims 59 and 60 are rejected under 35 U.S.C. 103(a) as being unpatentable over Riley in view of Alles.

As per claim 59, although Riley teaches a method for controlling an HVAC system that is adapted to modify and control at least one environmental condition of an inside space of a structure, the structure having at least one window that opens and closes, the method comprising the displayed indication that a window is open is provided by a sensor (col. 18, lines 3-25), Riley does not explicitly disclose a displayed indication being provided by a user. Alles teaches a displayed indication being provided by a user (figs. 20-21; col. 27, line 50 through col. 28, line 8; col. 27, lines 25-27; col. 31, lines 46-64; col. 32, lines 28-47 and 58-67; *indications are provided by a user via mode creation and editing mode capabilities concerning temperature, time and naming/renaming of modes*). It would have been obvious to an artisan at the time of the invention to incorporate the method of Alles with the method of Riley in order to provide users greater flexibility in controlling environmental conditions, i.e. users have the flexibility to run the HVAC system at an alternate setting such as higher comfort level or lower comfort level based upon preferences or conditions that effect operations of the HVAC system such as an open window.

As per claim 60, the modified Riley teaches a method for controlling an HVAC system that is adapted to modify and control at least one environmental condition of an inside space of a structure, the structure having at least one window that opens and closes wherein the indication that a window is or has been closed is provided by a user

(Riley: col. 18, lines 3-25; Alles: figs. 20-21; col. 27, line 50 through col. 28, line 8; col. 27, lines 25-27; col. 31, lines 46-64; col. 32, lines 28-47 and 58-67).

14.　　Claims 61-64 are rejected under 35 U.S.C. 103(a) as being unpatentable over Riley in view of Ehlers et al. ("Ehlers").

　　　　As per claim 61, although Riley teaches a method for controlling an HVAC system that is adapted to modify and control at least one environmental condition of an inside space of a structure, the structure having at least one window that opens and closes and further comprising the step of providing an alarm if one or more environmental conditions falls outside of a predetermined set point (col. 18, lines 27-31) while the at least part of the HVAC system is deactivated (col. 18, lines 3-25), the modified Riley does not explicitly disclose providing an alarm if one or more environmental conditions falls outside of a predetermined range. Ehlers teaches providing an alert/alarm if one or more environmental conditions falls outside of a predetermined range (fig. 4J; col. 45, line 39 through col. 46, line 8). It would have been obvious to an artisan at the time of the invention to incorporate the method of Ehlers with the method of Riley in order to avoid rapid fluctuations around a single point.

　　　　As per claim 62, the modified Riley teaches a method for controlling an HVAC system that is adapted to modify and control at least one environmental condition of an inside space of a structure, the structure having at least one window that opens and closes wherein the alarm is provided when an environmental condition such as an inside temperature drifts beyond a temperature set point, i.e. the alarm is provided based on a detection of an inside temperature drifting beyond a set point, including

activating/deactivating at least a part of the HVAC system to modify an environmental

condition if the environmental condition passes a set point and activating/deactivating at

least a part of the HVAC system to modify an environmental condition if a situation such

as an open window is detected (Ehlers: fig. 4J; col. 45, line 39 through col. 46, line 8;

Riley: col. 2, lines 9-21). Furthermore, the modified Riley teaches an open window set

point wherein the open window set point is an arbitrary number set by the user, thereby,

anytime a user establish a low set point or a high set point, the set point is equivalent to

an open window set point (Ehlers: col. 2, lines 32-45).

As per claim 63, the modified Riley teaches a method for controlling an HVAC

system that is adapted to modify and control at least one environmental condition of an

inside space of a structure, the structure having at least one window that opens and

closes wherein the alarm is provided when an inside humidity level drifts beyond an

open window humidity set point (Riley: col. 18, lines 26-31; *described is a system that*

*triggers an alarm upon detecting an environmental condition that drifts beyond a set*

*point wherein the system detects other environmental conditions including an inside*

*humidity level*; Ehlers: col. 2, lines 32-45; col. 29, lines 38-41; *wherein an open window*

*set point is an arbitrary number set by the user, thereby, anytime a user establish a low*

*set point or a high set point, the set point is equivalent to an open window set point*).

As per claim 64, the modified Riley teaches a method for controlling an HVAC

system that is adapted to modify and control at least one environmental condition of an

inside space of a structure, the structure having at least one window that opens and

closes wherein the alarm is provided when an inside air quality falls outside of an open

window air quality range (Riley: col. 18, lines 27-31; *alarm provided when an environmental condition such as an inside air quality drifts beyond a set point*; Ehlers: col. 2, lines 32-45; fig. 4J; col. 45, line 39 through col. 46, line 8; *wherein an open window set point is an arbitrary number set by the user, thereby, anytime a user establish a low set point or a high set point, the set point is equivalent to an open window set point*).

15.    Claim 65 is rejected under 35 U.S.C. 103(a) as being unpatentable over Riley in view of Ehlers et al. ("Ehlers") as applied to claim 61, and further in view of Roy.

As per claim 65, although the modified Riley teaches a method for controlling an HVAC system that is adapted to modify and control at least one environmental condition of an inside space of a structure, the structure having at least one window that opens and closes wherein the alarm is provided when the temperature falls outside of a predetermined range (Riley: col. 18, lines 27-31; Ehlers), the modified Riley does not explicitly disclose an alarm being provided when the barometric pressure drops by a predetermined amount. Roy teaches a signal/alarm being provided when the barometric pressure drops by a predetermined amount (col. 4, lines 35-42; *a signal is provided when the inside barometer air pressure reading is below the outside air pressure by a predetermined value*). It would have been obvious to an artisan at the time of the invention to incorporate the method of Roy with the method of the modified Riley in order to overcome various ventilation problems and compensate for such conditions as cold air drafts caused by exhausting kitchen odors.

## *Conclusion*

16.     The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Young (US 6,196,468) teaches that if doors or windows are open for a period exceeding the shutoff delay, then the HVAC unit is turned off and tat if all the doors and windows are later closed, then the HVAC unit is reactivated.

Brown, Jr. et al. (US 5,761,083) teach an energy management and home automation system.

Rhodes (US 5,042,997) figure 3 teaches a barometric pressure sensor that provides an indication of the pressure outside a building to a controller to maintain the air pressure within the building at the desire level.

Belusa (US 5,720,658) teaches an outdoor barometric sensor and pressure sensors located in each room and a resulting signal applied to the pressure controller 58 of fig. 3.

Carrell (US 6,310,554 B1) teaches detecting a dramatic drop in the barometric pressure which normally accompanies the approach of severe weather including storm activity and tornadoes.

Foster et al. (US 5,181,653) teaches a residential heating and air conditioning control system.

Rhodes (US 6,073,110) teaches an activity based equipment scheduling method and system.

Pratt et al. (US 5,259,445) teach a control for dual heating system including a heat pump and furnace.

Horst et al. (US 2003/0233201 A1) teach a total home energy management.

Hoog et al. (US 7,146,253 B2) teach a device and method for interactive programming of a thermostat.

Smith et al. (US 6,886,754 B2) teach a thermostat operable from various power sources.

Rosen (US 6,824,069 B2) teaches a programmable thermostat system employing a touch screen unit for intuitive interactive interface with a user.

Ziegler, Jr. (US 6,731,992 B1) teaches a remotely accessible energy control system.

DeWolf et al. (US 5,279,458) teach a network management control.

Krocker (US 4,446,913) teaches auto changeover thermostat with means for handling temperature entry errors.

Cottrell (US 6,502,758 B2) teach an electronic device for regulating and controlling ambient temperatures and relative setting method.

Shah (US 6,595,430 B1) teaches a GUI system for a thermal comfort controller.

Ashworth et al. (US 7,000,849 B2) teach a thermostat with configurable service contact information and reminder timers.

DeLuca (US 7,150,408 B2) teaches a programmable thermostat incorporating air quality protection.

Carey (US 6,814,299 B1) teaches a thermostat with one button programming feature.

Okano et al. (US 6,685,098 B2) teach a setback timer of air conditioner, air conditioning system and method of setting setback timer display.

Shyu (US 5,259,553) teaches an interior atmosphere control system.

Lincoln et al. (US 6,108,614) teach a system and method for serial communication between a central unit and a plurality of remote units.

Mehta (US 5,782,296) teach an auto-programmable electronic thermostat.

Uptegraph (US 5,673,850) teaches a programmable thermostat with rotary dial program setting.

Dushane et al. (US 5,348,078) teach a dwelling heating and air conditioning system.

Launey et al. (US 5,086,385) teach an expandable home automation system.

Hines et al. (US 4,386,649) teach a programmable thermostatic control device.

### *Inquires*

17.     Any inquiry concerning this communication or earlier communications from the examiner should be directed to Examiner Lê Nguyen whose telephone number is **(571) 272-4068**. The examiner can normally be reached on Monday - Friday from 7:00 am to 3:30 pm (EST).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kristine Kincaid, can be reached at (571) 272-4063.

Information regarding the status of an application may be obtained from the

Patent Application Information Retrieval (PAIR) system. Status information for

published applications may be obtained from either Private PAIR or Public PAIR.

Status information for unpublished applications is available through Private PAIR only.

For more information about the PAIR system, see http://pair-direct.uspto.gov. Should

you have questions on access to the Private PAIR system, contact the Electronic

Business Center (EBC) at 866-217-9197 (toll-free).

LVN
Patent Examiner
January 14, 2007

LUU
PRIMARY EXAMINER